

## Material Composition Declaration

© Copyright 2005. IPC, Bannockburn, Illinois. All rights reserved under both international and Pan-American copyright conventions.

This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.

1752-2 1.1

ICP Web Site for information on IPC-1752 Standard  
<http://www.ipc.org/IPC-175x>

Form Type\*  
Distribute

**Declaration Class\***  
**Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Information**

### Supplier Information

<b>Company Name *</b> Fairchild Semiconductor	Company Unique ID 00-489-5751	Unique ID Authority Dun & Bradstreet	<b>Response Date*</b> Sat, May 26, 2012 04:15 AM
<b>Contact Name *</b> David Lancaster	Title - Contact Product Ecology	<b>Phone - Contact *</b> 801-562-7455	<b>Email - Contact *</b> david.lancaster@fairchildsemi.com
<b>Authorized Representative *</b> David Lancaster	Title - Representative Product Ecology	<b>Phone - Representative *</b> 801-562-7455	Email - Representative * david.lancaster@fairchildsemi.com

Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	Weight*	UOM	Unit Type
KA278R12CTU	KA278R12CTU	TO-220F-4			INTERNAL SUZHOU	2.529	g	Each

### Manufacturing Process Information

Terminal Finish	Base Alloy	J-STD-020 MSL Rating	Peak Process Body Temperature	Max Time at Peak Temperature	No Reflow cycles
Matte Tin (Sn)	CU Alloy	Not Applicable	C	seconds	Not Applicable

\* Required Field

<b>RoHS Material Composition Declaration</b>	<b>Declaration Type * Custom</b>
--	----------------------------------

<b>RoHS Directive 2002/95/EC</b>	<b>RoHS Definition:</b> Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium
----------------------------------	---

Providing for limitations below, we certify that the Fairchild Semiconductor product(s) list in this document are compliant to directive 2002/95/EC of the European Parliament and of the council on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS directive). Specifically, this product(s) does not contain the substances in the RoHS definition above in concentrations greater than the maximum limit value(a).

Fairchild has implemented procedures to ensure our products and the materials in our products conform to regulatory requirements worldwide. Fairchild Semiconductor certifies that the information provided in this document is correct as of the date indicated on this document. However, not all materials in Fairchild's products may have been independently verified or tested with regard to substance content. In the event of any issues arising from information in this document, the warranty section of Fairchild's standard terms and conditions of sale shall apply, unless alternate contracts have been agreed upon in writing by both parties.

(a) Maximum limit does not apply to applications for which exemptions have been granted by the RoHS directive. Fairchild product may utilize exemption 5 and 7a.

<b>RoHS Declaration *</b>	<b>4 - Item(s) does not contain RoHS restricted substances per the definition above except for selected exemptions</b>	<b>Supplier Acceptance * Accepted</b>
---------------------------	--	---------------------------------------

**Exemptions:** If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and choose all applicable exemptions.

Exemption List Version EL-2006/690/EC

7a. Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85 % by weight or more lead).

**Declaration Signature**

Supplier Signature	 DAVID LANCASTER - PRODUCT ECOLOGY MANAGER
--------------------	--

**Homogeneous Material Composition Declaration for Electronic Products**

Item/SubItem Name TO-220F-4

Component	Material	Weight (mg)	Jig Level	Substance Category	Substance	Weight (mg)	CAS	PPM
Chip	Other inorganic materials	6.190	Supplier		Silicon	6.190	7440-21-3	2448
Die Attach	Other Nonferrous metals & alloys	1.840	A	Lead/Lead Compounds	Lead	1.720	7439-92-1	680
			Supplier		Silver	0.028	7440-22-4	11
			Supplier		Tin	0.092	7440-31-5	36
Encapsulation	Thermoplastics	953.400	B	Antimony/Antimony Compounds	Antimony Trioxide	23.800	1309-64-4	9412
			B	Brominated Flame Retardants (other than PBCs or PBDEs)	Bromine Resin	28.600	6386-73-8	11311
			Supplier		Epoxy Resin	191.000	29690-82-2	75536
			Supplier		Silica, vitreous	710.000	60676-86-0	280788
Lead Frame	Other Ferrous alloys, non-stainless steels	1545.114	Supplier		Copper	1540.000	7440-50-8	609034
			Supplier		Iron	1.550	7439-89-6	613
			Supplier		Phosphorus	0.464	7723-14-0	184
			Supplier		Silver	3.100	7440-22-4	1226
Plating	Other Nonferrous metals & alloys	21.600	Supplier		Tin	21.600	7440-31-5	8542
Wire Bond	Precious metals	0.450	Supplier		Gold	0.450	7440-57-5	178